**Unit 6 Map (Enzymes and Cellular Respiration)**

Ms. Ottolini, AP Biology

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| **Topic** | **Learning Target** | **DBA Score** (%) | **Test Score** (%) |
| 1. Enzymes and Introduction to Metabolism | A. You will be able to characterize various chemical reactions based on the changes that occur within the reactants (i.e. anabolic vs. catabolic reaction) and the energy lost or gained by the reactants (i.e. exergonic vs. endergonic reaction). You will be able to provide examples of energy coupling between exergonic and endergonic reactions within living organisms. |  |  |
| B. You will be able to discuss the nature and importance of interactions between the substrate and enzyme active site in an enzyme-catalyzed reaction. |
| C. You will be able to discuss the differences in energy levels for an enzyme-catalyzed vs. non-catalyzed reaction pathway. |
| D. You will be able to describe how the following factors affect enzyme efficiency: concentration of substrate, pH, and temperature. |
| E. You will be able to predict how allosteric regulators, competitive inhibitors, and feedback regulation will affect enzyme activity. |
| 2. Aerobic Respiration | F. You will be able to identify the overall goal, reactants, and products of each step of cellular respiration. |  |  |
| G. You will be able to describe the amount and type of ATP production in each step of cellular respiration |
| H. You will be able to identify the location of each step within the cell or mitochondrion. |
| I. You will be able to draw and evaluate diagrams of each step. |
| 3. Anaerobic Respiration | J. You will be able to compare and contrast aerobic vs. anaerobic respiration. |  |  |
| K. You will be able to compare and contrast lactic acid fermentation and alcoholic fermentation. |
| L. You will be able to identify organisms that use aerobic respiration and each type of anaerobic respiration. |